

# Missouri STEM Report

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2022-2032



DEPARTMENT OF  
HIGHER EDUCATION &  
WORKFORCE DEVELOPMENT

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## Missouri STEM and STEM-Related Occupations

STEM (Science, Technology, Engineering and Mathematics) and STEM-Related occupations are some of the most in-demand and highest paying jobs in Missouri. In fact, the need for such employees is projected to grow about two and a half times more than the average for all occupations. The projected growth rate for STEM and STEM-Related occupations from 2022-2032 is 12.6 percent, while the statewide average growth rate for all occupations is 4.3 percent. By 2032, the total employment for STEM and STEM-Related occupations is expected to be more than 437,222, an increase of over 49,000 jobs.

Wages for STEM and STEM-Related occupations are higher than the average wage for all occupations. The average 2023 wage for all occupations in Missouri is \$57,580, while the average wage for STEM and STEM-Related occupations is \$91,338.

Education is key to meeting the demand for STEM and STEM-Related workers. Of the 196 STEM and STEM-Related occupations in Missouri, 192 require some level of postsecondary education. Most occupations typically require a bachelor's degree (71 occupations) or master's degree and beyond (76 occupations). In addition, 45 occupations require an associate degree, and four occupations require a high school diploma or equivalent.

### SCIENCE

Science includes those who conduct research and experiments in labs, as well as areas of natural science. Outdoor field work is an integral part of biological science occupations. Natural science technicians play a key role in assisting scientists in their experimentation and discovery.

### TECHNOLOGY

Technology occupations are commonly found in the areas of computer information technology, but also include any occupation that requires technical skill. Technology workers create new software, develop databases, and assist users in maintaining their computer's performance.

### ENGINEERING

Engineers develop and test new products. Engineers incorporate elements of science, technology, and math in their work. There are Civil, Electrical, and Mechanical Engineers among others, as well as drafters and technicians who provide assistance throughout the process.

### MATH

Math is part of many occupations, but for some, mathematics is at the heart of what they do. Actuaries, Statisticians, and Research Analysts use mathematics for risk assessment, problem solving, and various types of data analysis.

## STEM-Related Occupations

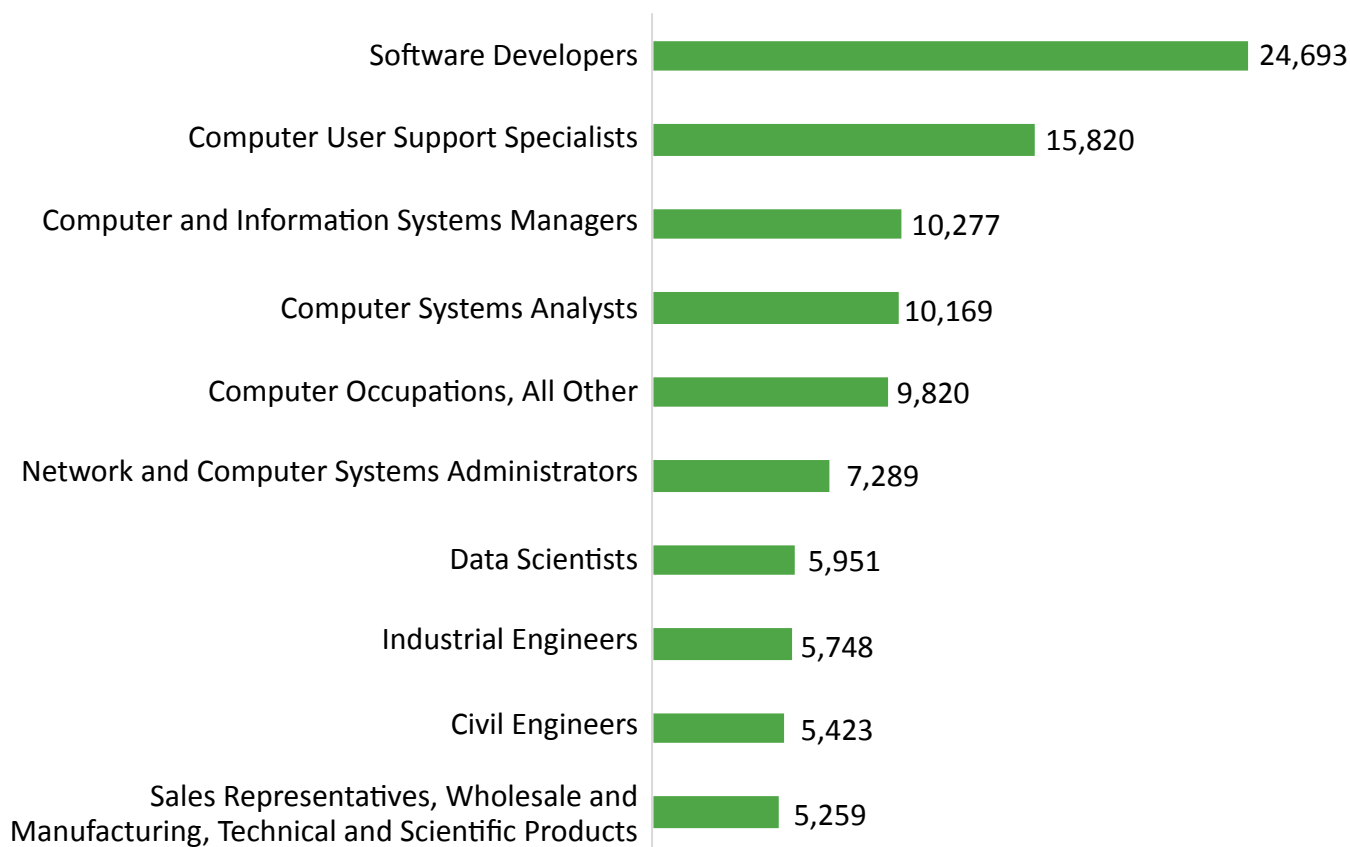
STEM-Related occupations include *Architecture* and *Health Care* occupations. They mainly focus on design and patient care, but also rely heavily on many of the STEM principles. In Missouri, there are 124 STEM occupations and 72 STEM-Related occupations.

## STEM Occupations in Missouri

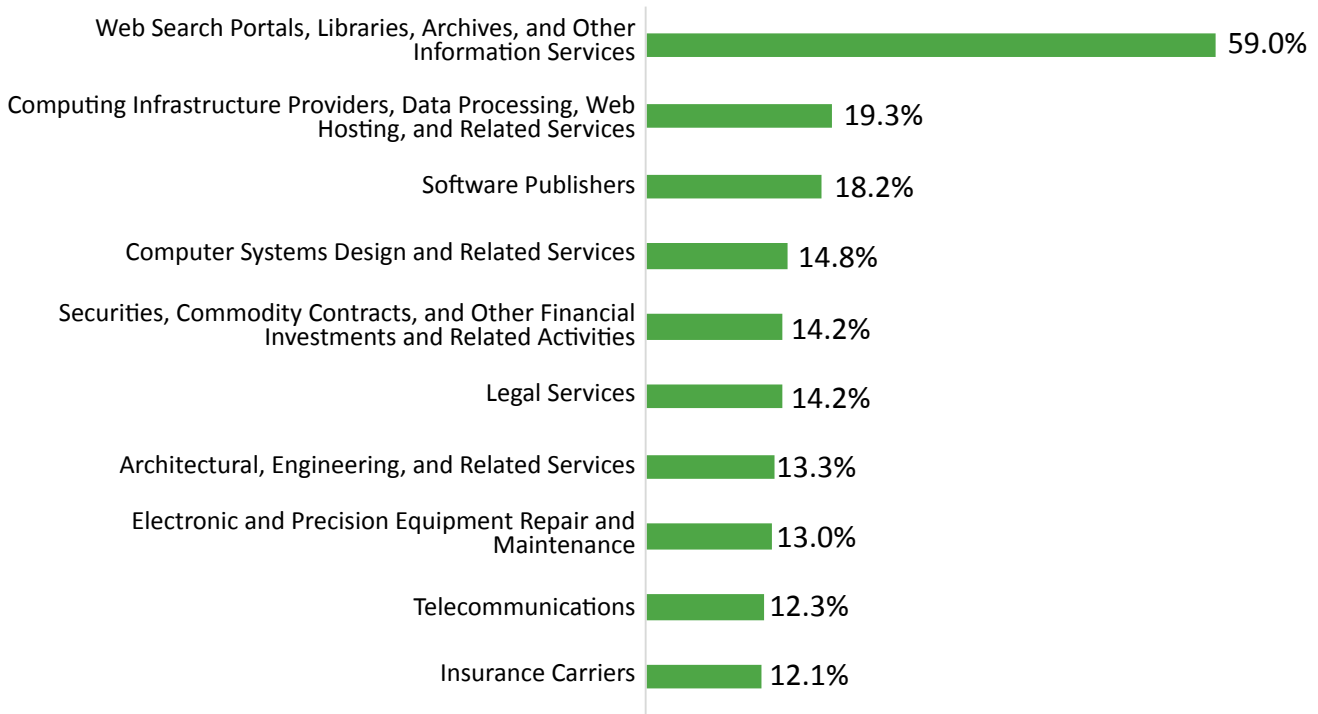
There are over 100 STEM occupations, and they can be found in many different industries. Some occupations are industry-specific due to their scope, while other occupations are wide-ranging in their industrial usefulness.

Seven of the top 10 STEM occupations by employment are related to computers and computer technology. *Software Developers* have the largest employment (24,693), which is over one and half times higher than the employment for *Computer User Support Specialists*, the occupation with the second highest employment. In 2022, STEM occupations made up 5.6 percent of Missouri's total employment. In 2032, these are projected to make up 6 percent of total Missouri employment. In some industries, however, STEM occupations make up a large percentage of those employed, as those industries are more reliant on the skills and knowledge associated with STEM employment. The *Web Search Portals, Libraries, Archives, and Other Information Services* industry tops the industries with the highest percentage of STEM employment.

### STEM Occupations with Highest Employment, 2032



## Industries with Highest STEM Employment Percentage, 2032



## STEM Location Quotient

Location Quotients (LQs) describe the concentration of an occupation or industry in a geographic region in relation to the nation, with 1.0 being the national average. LQs higher than 1.0 indicate a higher concentration in Missouri relative to the United States, while LQs below 1.0 indicate lower concentrations. The most concentrated STEM occupation in Missouri is *Social Sciences Teachers, Postsecondary, All other* with an LQ of 2.1.

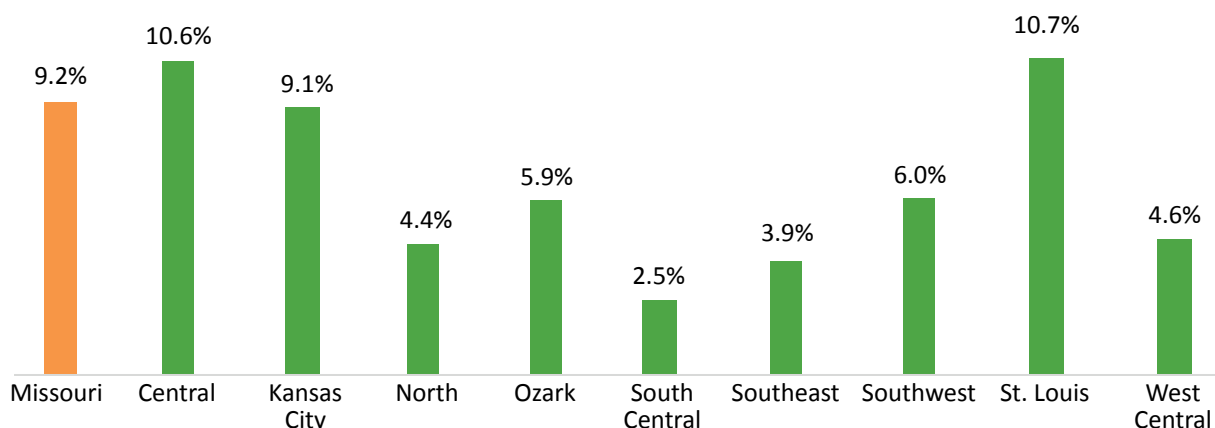
### STEM Occupations with Highest Location Quotient

Occupation	2022 Estimated Employment	2032 Projected Employment	2022-2032 Percentage Change	2022-2032 Annual Openings	2023 Average Wages	2023 Location Quotient
Social Sciences Teachers, Postsecondary, All Other	587	608	3.6%	48	\$89,550	2.1
Biological Scientists, All Other	2,250	2,366	5.2%	179	\$69,890	2.0
Database Architects	2,033	2,304	13.3%	152	\$106,560	1.7
Agricultural Technicians	490	526	7.3%	71	\$55,980	1.6
Food Science Technicians	833	934	12.1%	128	\$56,910	1.6
Nuclear Technicians	157	160	1.9%	16	\$89,090	1.6
Environmental Engineering Technologists and Technicians	405	427	5.4%	40	\$53,820	1.5
Computer Network Support Specialists	4,620	5,061	9.5%	362	\$68,790	1.4
Mechanical Drafters	1,135	1,088	-4.1%	85	\$66,020	1.4
Chemists	2,081	2,335	12.2%	175	\$99,370	1.4

## STEM Job Postings\*

In 2024, there were more than 66,000 job postings for STEM occupations in Missouri, making up 9.2 percent of total annual job postings in the state. The top five employers with the most STEM job ads were Boeing, Actalent, Deloitte, Washington University, and Edward Jones. The St. Louis Workforce Development Area (WDA) had the highest number (30,000 STEM postings) and the highest percentage (10.7%) of STEM job postings.

### STEM Job Postings as Percent of Total Job Postings



\*Job postings data from January 2024 to December 2024 from Lightcast™

The STEM occupations with the most job postings were *Computer Occupations, All Other* (8,770) and *Software Developers* (7,960). All the top 10 occupations with the most job postings also have average wages that are higher than the state average for all occupations. This is consistent with STEM occupations generally having higher wages than non-STEM occupations.

### Top STEM Occupations with Most Job Postings

Occupation	2022 Estimated Employment	2032 Projected Employment	2022-2032 Percent Change	2022-2032 Annual Openings	2023 Average Wages	2024* Job Postings
Computer Occupations, All Other	8,983	9,820	9.3%	666	\$97,140	8,770
Software Developers	19,531	24,693	26.4%	1,686	\$107,980	7,960
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	5,290	5,259	-0.6%	461	\$93,980	4,800
Data Scientists	4,324	5,951	37.6%	467	\$88,210	3,990
Computer User Support Specialists	14,751	15,820	7.2%	1,110	\$57,600	3,660
Civil Engineers	5,010	5,423	8.2%	346	\$93,110	3,090
Industrial Engineers	4,925	5,748	16.7%	374	\$99,270	2,010
Computer Systems Analysts	9,225	10,169	10.2%	659	\$97,650	1,720
Mechanical Engineers	3,080	3,415	10.9%	210	\$90,980	1,720
Database Administrators	2,076	2,272	9.4%	145	\$90,660	1,610

\*Job postings data from January 2024 to December 2024 from Lightcast™

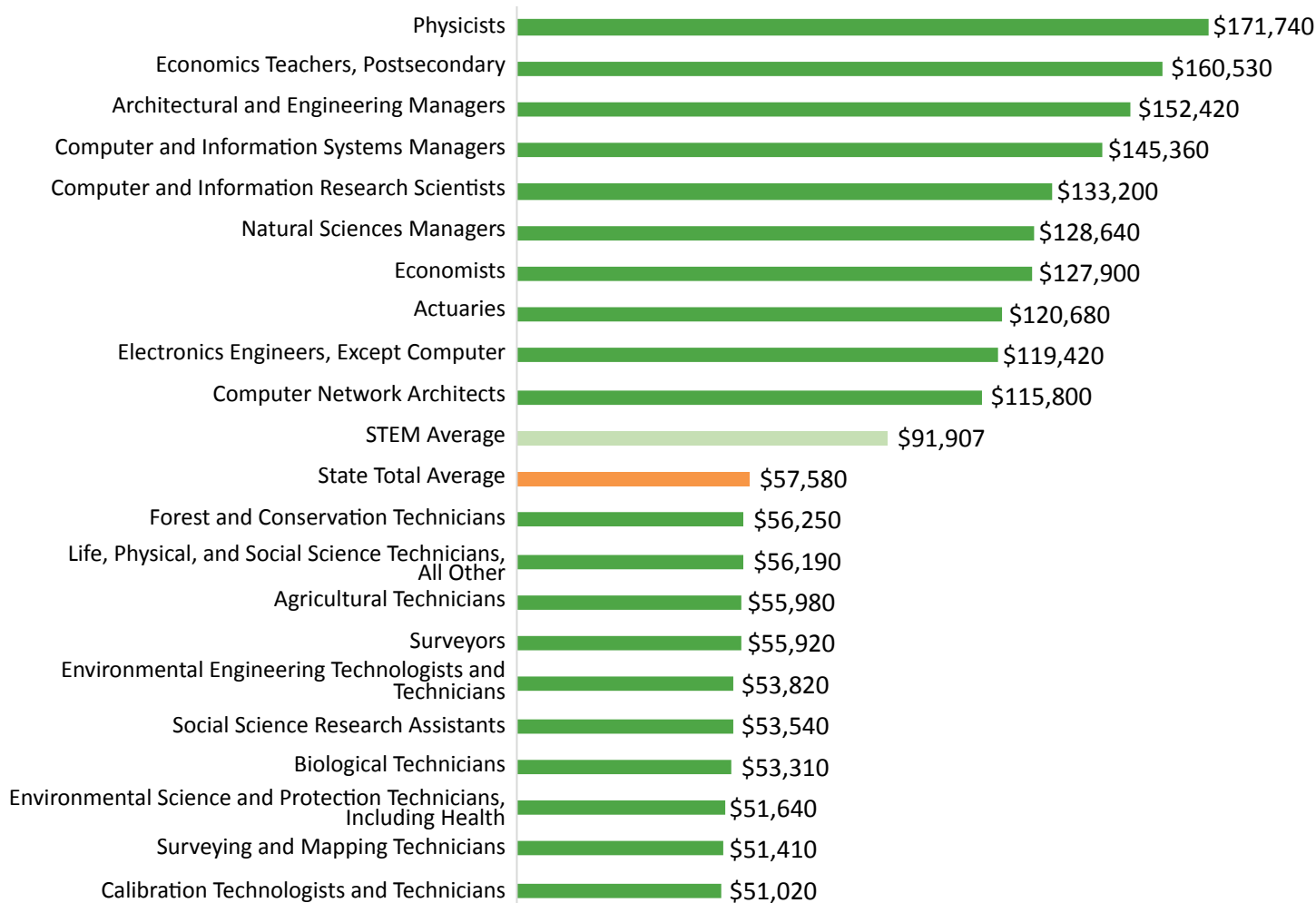
In addition to large numbers of job postings over the last year, nine of the top 10 occupations are projected to have growth rates that are higher than the state average of 4.3 percent for all occupations from 2022-2032. This indicates that not only are these STEM jobs in demand now, but they are also projected to be in demand for years to come.

## STEM Earnings and Growth

STEM occupations can be found in many different industries throughout Missouri and are also some of the highest paying jobs in the state. As a group, STEM occupations earn about 60 percent more than the Missouri average. In 2022, STEM occupations accounted for 5.5 percent of Missouri's total workforce, but these same occupations are projected to comprise 15.7 percent of the statewide employment growth from 2022-2032. Missouri's projected growth rate for all STEM occupations is 12.2 percent during that same time frame. Comparing this to the overall projected growth rate for the state of 4.3 percent indicates that STEM occupations are an important part of the state's economic growth.

Similar to other occupations, STEM occupations requiring a higher level of education usually pay more than those that do not. The 10 highest paid STEM occupations require a bachelor's degree or higher, and two of the top 10 require a doctoral or professional degree.

### STEM Occupations with Highest and Lowest Wages



Of the 124 STEM occupations in Missouri, only 12 have an average wage below the state average. With higher-than-average wages, STEM occupations are a strong part of Missouri's economy. STEM occupations provide quality jobs now and are also projected to be a valuable part of Missouri's employment future.

## STEM Occupations with Most Projected Annual Openings 2022-2032

Occupation	2022 Estimated Employment	2032 Projected Employment	2022-2032 Net Change	2022-2032 Percent Change	Annual Openings	2023 Average Wages
Software Developer	19,531	24,693	5,162	26.4%	1,686	\$107,980
Computer User Support Specialists	14,751	15,820	1,069	7.2%	1,110	\$57,600
Computer and Information Systems Managers	8,774	10,277	1,503	17.1%	758	\$145,360
Computer Occupations, All Other	8,983	9,820	837	9.3%	666	\$97,140
Computer Systems Analysts	9,225	10,169	944	10.2%	659	\$97,650
Data Scientists	4,324	5,951	1,627	37.6%	467	\$88,210
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	5,290	5,259	-31	-0.6%	461	\$93,980
Network and Computer Systems Administrators	6,966	7,289	323	4.6%	426	\$89,080
Industrial Engineers	4,925	5,748	823	16.7%	374	\$99,270
Computer Network Support Specialists	4,620	5,061	441	9.5%	362	\$68,790

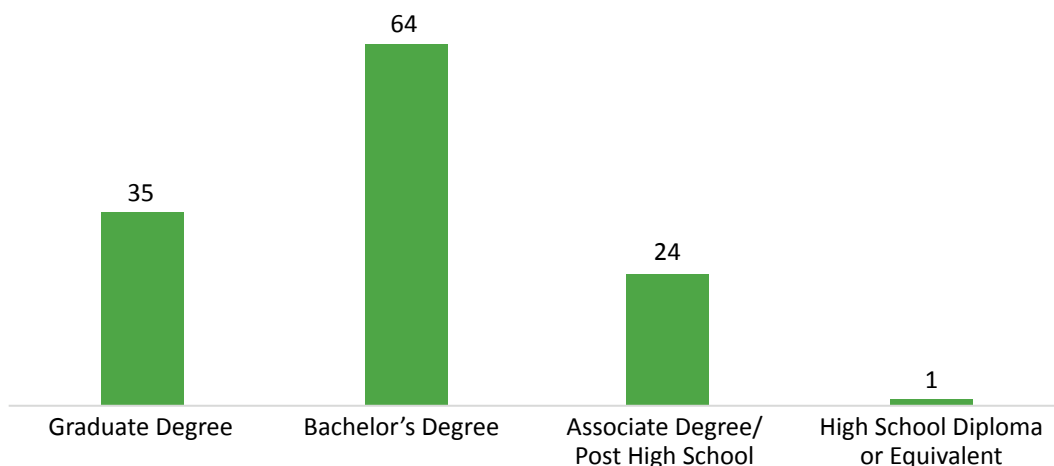
As computers, software, automation, and other forms of technology become increasingly important in our everyday personal and work lives, the demand for workers who can create and maintain these new advances will continue to be on the rise. Eight of the top 10 STEM occupations with the greatest number of projected openings are related to computers.

As innovations create new demands in the workplace, employees and job seekers with education and training in the areas of Science, Technology, Engineering, and Math will be in high demand. These skills are valuable within their own fields of expertise. With a solid foundation of employment, wages, and growth, STEM occupations have established themselves as an important part of Missouri's economic future.

### STEM Occupations by Education

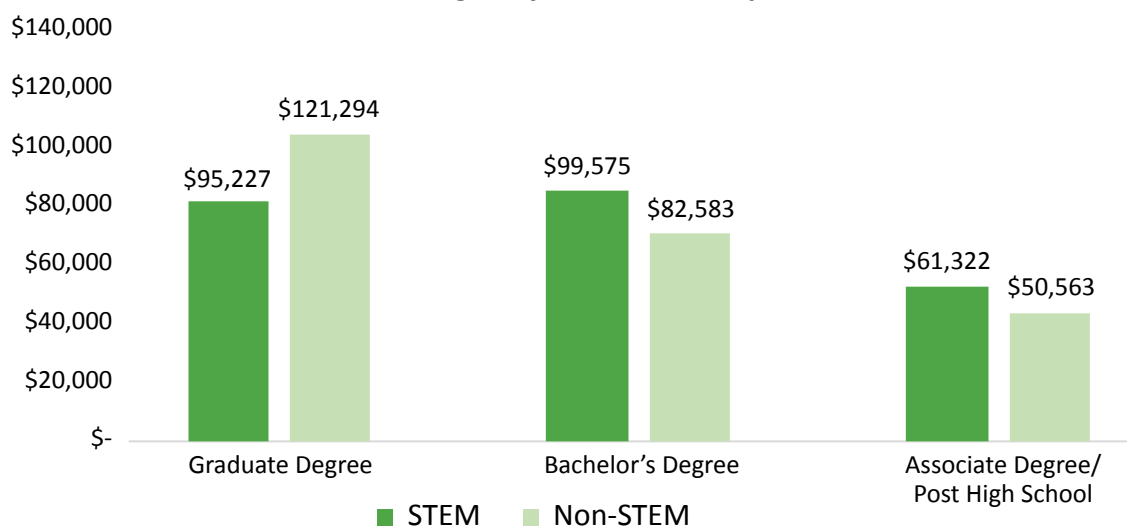
The key to meeting the increased demand for STEM-skilled employees is education. Of the 124 occupations classified as STEM in the state of Missouri, all but one requires education beyond the high school level and 80 percent of all projected STEM job openings require a bachelor's degree or higher.

### STEM Occupations by Education Requirement



Workers employed in STEM occupations that typically require an associate degree or postsecondary certificate earn more than their non-STEM counterparts. On average, occupations that typically require an education beyond high school, but short of a bachelor's degree, earn \$61,322 a year in STEM occupations. Conversely, non-STEM occupations, with the same education requirement, earn on average \$50,563 a year.

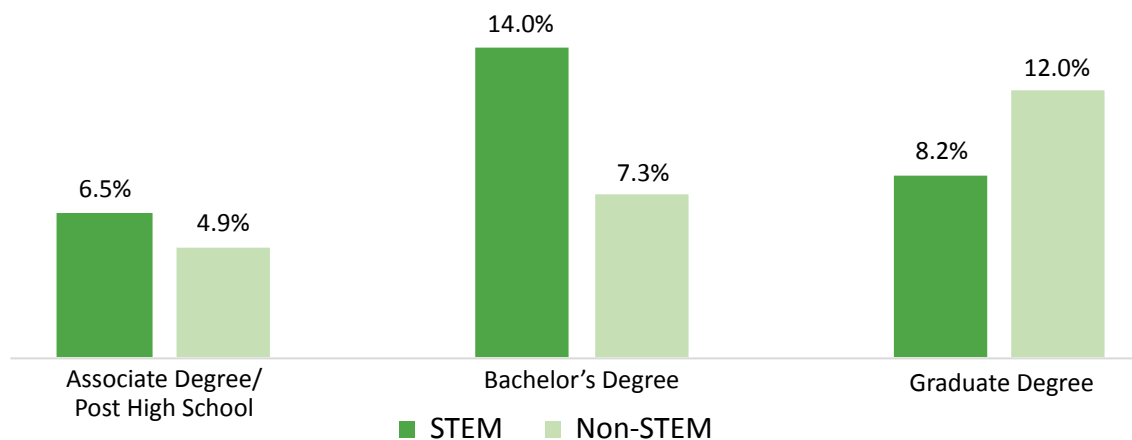
### 2023 Annual Wages by Education Requirement



The advantages of a STEM education in Missouri continue at the bachelor's degree level. STEM occupations that typically require a bachelor's degree earn an average of 20.6 percent more than their non-STEM counterparts. The growth rate for STEM occupations at this education level also outpaces non-STEM occupations. However, the wage advantages of STEM occupations do not extend to occupations that require a graduate degree. This could be due to STEM occupations requiring a graduate degree being more heavily concentrated in the major occupation group of *Educational Instructions and Library*, while *Legal* and *Management* occupations represent a higher percentage of non-STEM graduate degree occupations. *Legal* and *Management* occupations generally earn a higher wage than *Educational Instructions and Library* occupations.

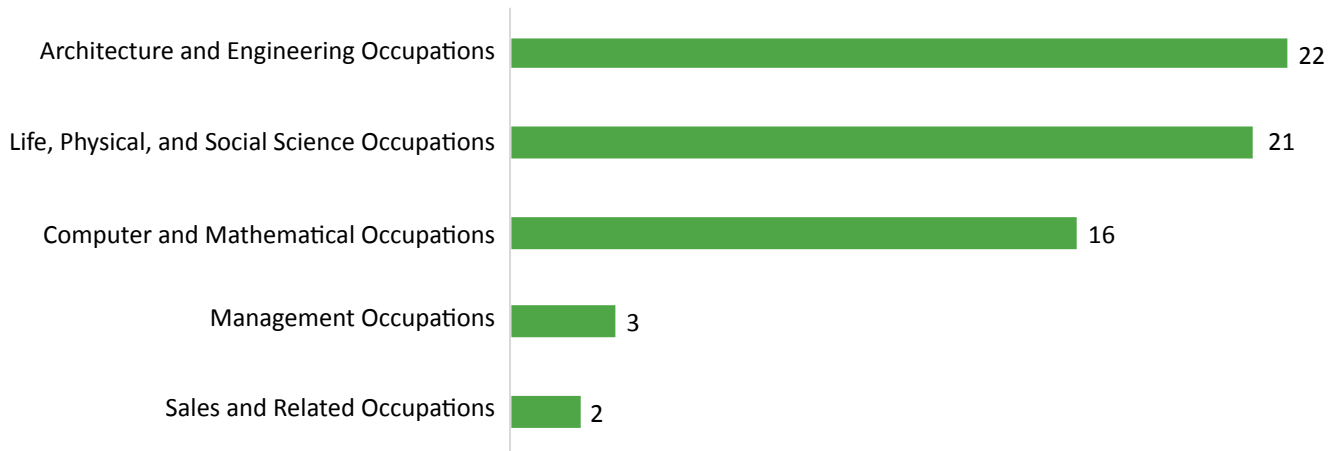
STEM occupations that typically require a level of education beyond high school and up to a graduate degree are projected to have higher rates of growth than non-STEM occupations from 2022-2032

### Projected Growth Rate by Education Requirement, 2022-2032



The advantages of STEM occupations are most obvious at the bachelor's degree level. There are 64 STEM occupations that require a bachelor's degree, including 21 that can be found in the *Life, Physical, and Social Science* occupation group. Another 22 occupations are in the *Architecture and Engineering* occupation group.

### STEM Bachelor's Degree Occupations by Occupational Group



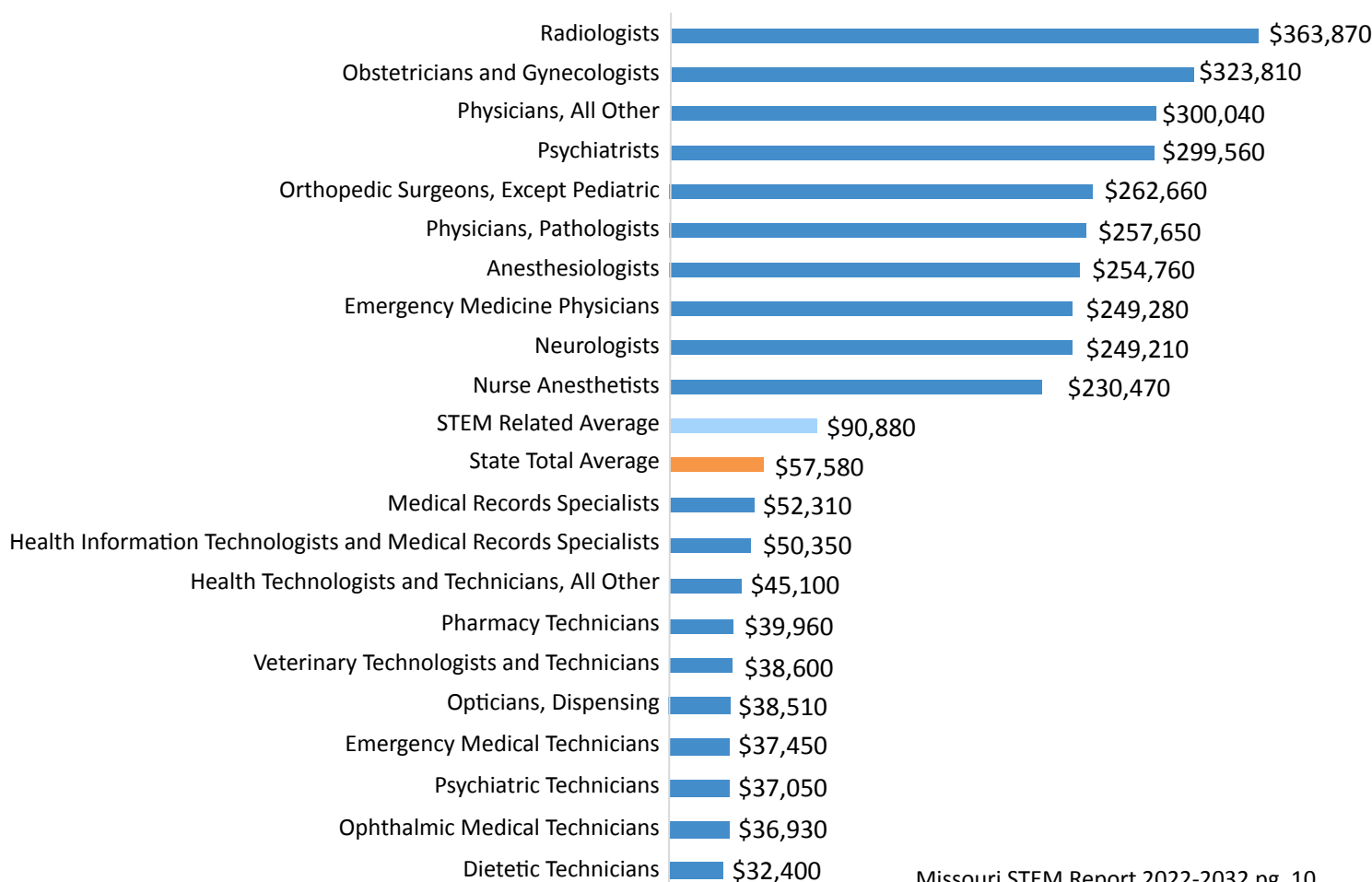
## STEM-Related Occupations in Missouri

STEM-Related occupations rely heavily on many of the STEM principles but are focused on design and patient care and are in the fields of *Architecture* and *Health Care*. There are 72 STEM-Related occupations in Missouri. The top 10 largest employed STEM-Related occupations are all in the *Health Care* and *Therapy* fields, as are the top 10 STEM-Related occupations with the most projected total openings.

STEM-Related Occupations with Most Projected Annual Openings 2022-2032						
Occupation	2022 Estimated Employment	2032 Projected Employment	2022-2032 Net Change	2022-2032 Percent Change	Annual Openings	2023 Average Wages
Registered Nurses	76,963	84,578	7,615	9.9%	5,105	\$77,590
Medical and Health Services Managers	9,953	13,054	3,101	31.2%	1,106	\$116,370
Licensed Practical and Licensed Vocational Nurses	13,005	13,748	743	5.7%	1,086	\$55,220
Pharmacy Technicians	9,741	11,011	1,270	13.0%	1,055	\$39,960
Nurse Practitioners	7,517	10,669	3,152	41.9%	718	\$116,680
Health Specialties Teachers, Postsecondary	5,495	6,548	1,053	19.2%	573	\$128,500
Pharmacists	7,682	8,605	923	12.0%	393	\$132,570
Physical Therapists	5,888	7,091	1,203	20.4%	369	\$91,030
Psychiatric Technicians	3,711	4,107	396	10.7%	358	\$37,050
Speech-Language Pathologists	4,032	5,103	1,071	26.6%	348	\$80,730
Health Technologists and Technicians, All Other	4,360	4,721	361	8.3%	337	\$45,100

The 2023 average wage for all STEM-Related occupations is \$90,880. While slightly lower than the average wage for all STEM occupations, it is still considerably higher than the state average of \$57,580 for all occupations. In fact, STEM-Related occupations on average earn 58 percent more than the state average.

### STEM-Related Occupations with Highest and Lowest Wages



## STEM-Related Location Quotients

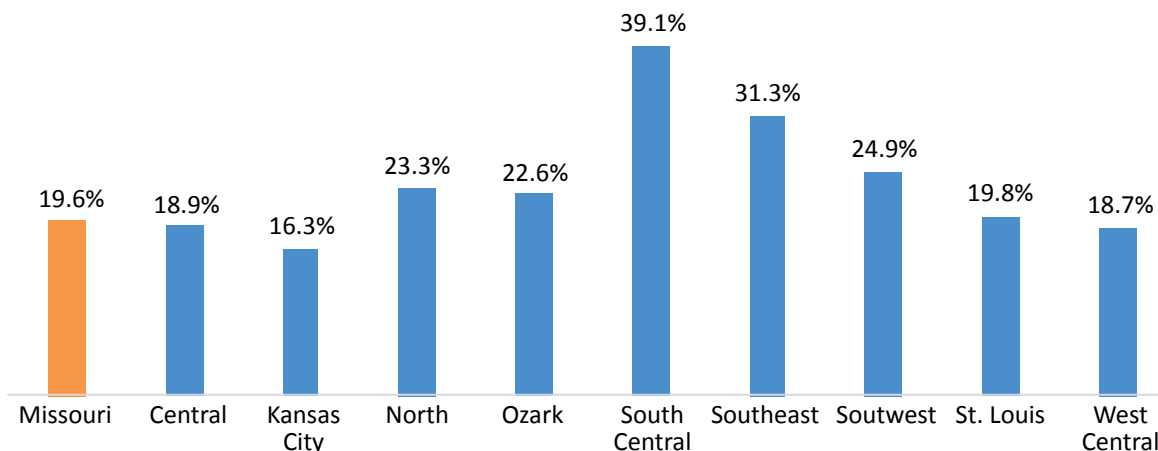
The most concentrated STEM-Related occupation in the state is *Health Information Technologists and Medical Registrars*, with a Location Quotient of 2.09. All of the top 10 LQ occupations are from *Healthcare Practitioners and Technical Occupations* major group. *Hearing Aid Specialists* is the only top 10 LQ occupation requiring an education of high school or equivalent. The *Nurse Practitioners* occupation has the highest growth rate (41.9%) and highest projected annual openings (718).

STEM-Related Occupations with Highest Location Quotient						
Occupation	2022 Estimated Employment	2032 Projected Employment	2022-2032 Percent Change	2022-2032 Annual Openings	2023 Average Wages	2023 Location Quotient
Health Information Technologists and Medical Registrars	1,462	1,749	19.6%	126	\$50,350	2.1
Orthotists and Prosthetists	334	354	6.0%	25	\$71,030	2.0
Radiation Therapists	620	657	6.0%	30	\$85,630	1.9
Paramedics	3,494	3,719	6.4%	185	\$54,550	1.9
Magnetic Resonance Imaging Technologists	1,551	1,729	11.5%	105	\$79,330	1.8
Psychiatric Technicians	3,711	4,107	10.7%	358	\$37,050	1.7
Family Medicine Physicians	3,737	3,780	1.2%	103	\$223,180	1.7
Hearing Aid Specialists	311	371	19.3%	28	\$56,830	1.6
Dietitians and Nutritionists	2,532	2,696	6.5%	181	\$58,080	1.6
Nurse Practitioners	7,517	10,669	41.9%	718	\$116,680	1.4

## STEM-Related Job Postings\*

In 2024, there were over 140,000 online job postings for STEM-Related occupations in Missouri, making up 19.6 percent of the total job postings in the state. The top five employers with the most STEM-Related job ads were Mercy Health, ShiftMed, BJC Healthcare, SSM Healthcare, and HCA Healthcare. While the St. Louis WDA had the largest number of STEM-Related job postings, the South Central WDA had the highest percentage of STEM-Related job postings.

### STEM-Related Job Postings as Percent of Total Job Postings



\*Job postings data from January 2024 to December 2024 from Lightcast™

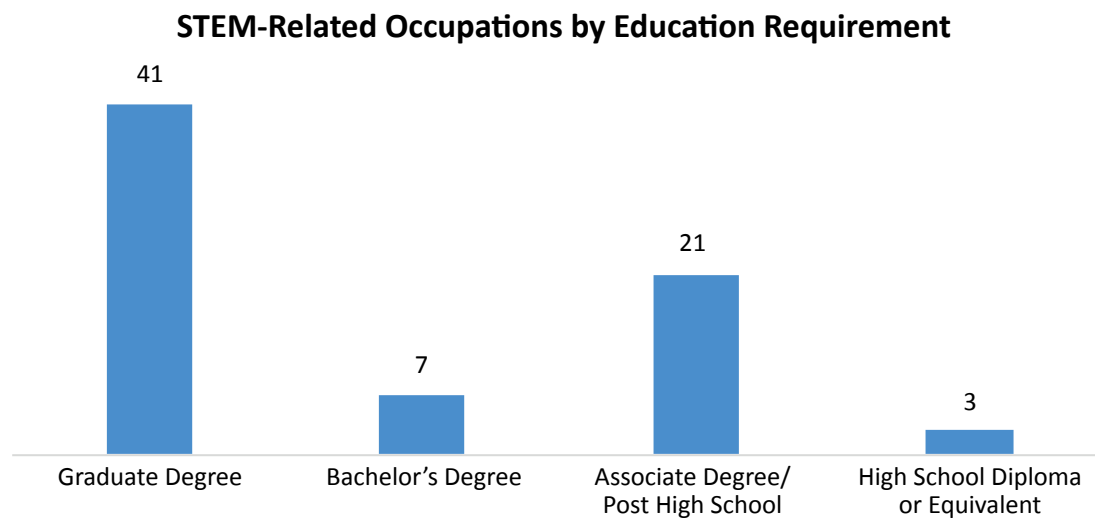
All of the top 10 STEM-Related occupations with the most job postings are from the *Healthcare Practitioners and Technical Occupations* major group. *Registered Nurses* have the most job postings (55,770) and projected annual openings (5,105), which is over four times the annual openings for the second top occupation, *Licensed Practical and Licensed Vocational Nurses* (1,086).

Top STEM-Related Occupations with Most Job Postings						
Occupation	2022 Estimated Employment	2032 Projected Employment	2022-2032 Percent Change	2022-2032 Annual Openings	2023 Average Wages	2024* Job Postings
Registered Nurses	76,963	84,578	9.9%	5,105	\$77,590	55,770
Licensed Practical and Licensed Vocational Nurses	13,005	13,748	5.7%	1,086	\$55,220	10,260
Medical and Health Services Managers	9,953	13,054	31.2%	1,106	\$116,370	7,290
Health Technologists and Technicians, All Other	4,360	4,721	8.3%	337	\$45,100	6,000
Physical Therapists	5,888	7,091	20.4%	369	\$91,030	4,970
Magnetic Resonance Imaging Technologists	1,551	1,729	11.5%	105	\$79,330	4,270
Pharmacy Technicians	9,741	11,011	13.0%	1,055	\$39,960	3,940
Nurse Practitioners	7,517	10,669	41.9%	718	\$116,680	3,770
Physicians, All Other	4,377	4,612	5.4%	143	\$300,040	3,290
Radiologic Technologists and Technicians	4,672	5,023	7.5%	287	\$66,560	2,910

\*Job postings data from January 2024 to December 2024 from Lightcast™

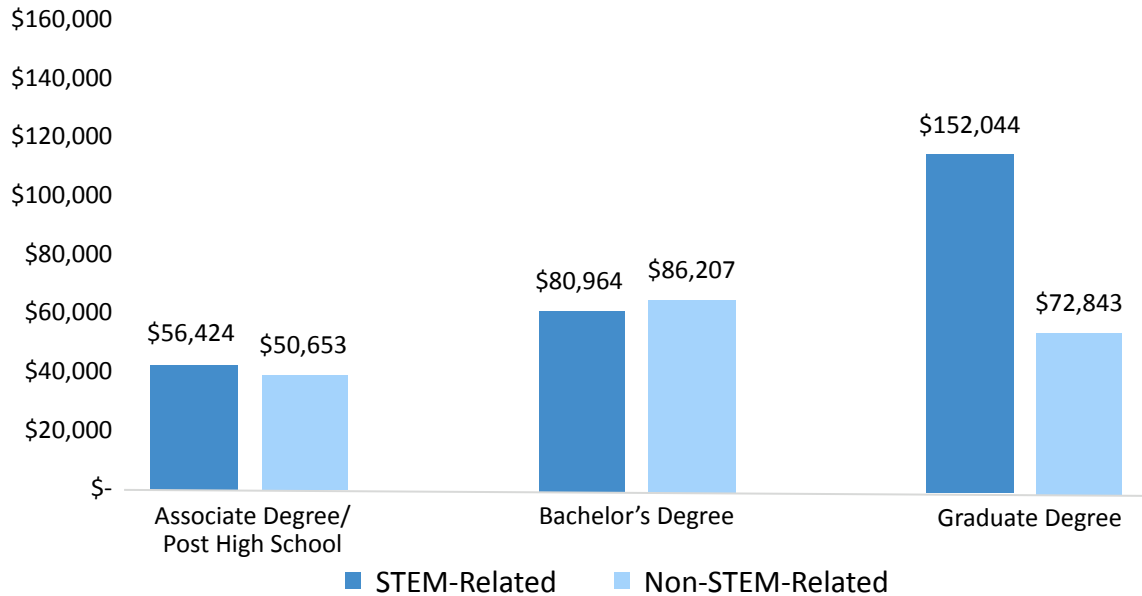
### STEM-Related Occupations by Education

Most STEM-Related occupations require some form of education or training beyond a high school diploma. In fact, 69 of the 72 STEM-Related occupations require an education beyond the high school level, and 48 occupations require a bachelor's degree or higher.



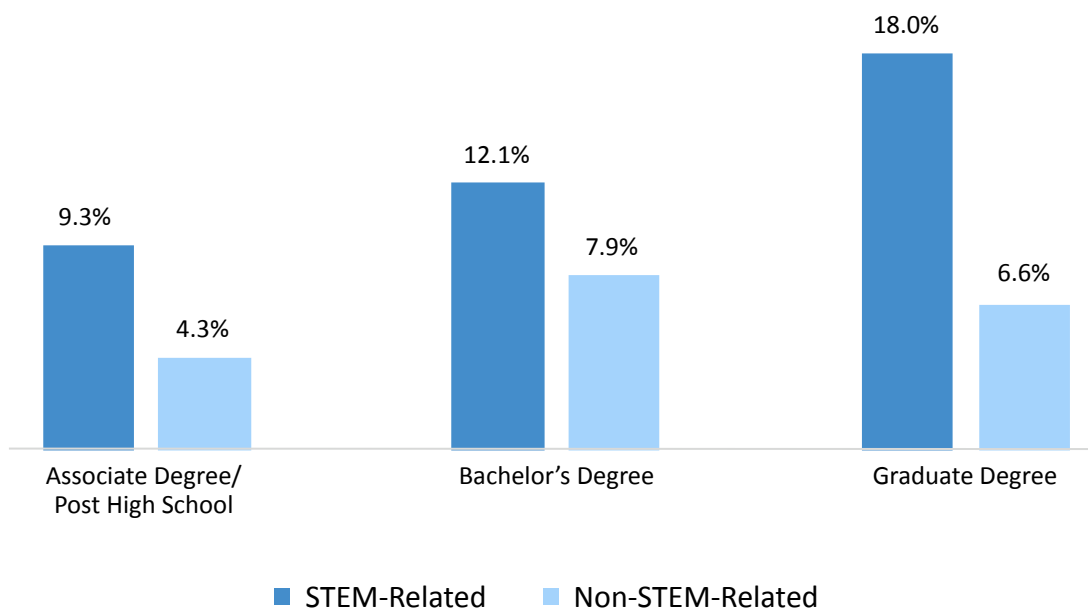
At the highest degree levels, master's and doctoral degrees, the wage advantages of a STEM-Related occupation are the most significant. STEM-Related occupations that typically require a graduate degree earn an average of \$152,044 annually, compared to an average of \$72,843 for non-STEM-Related occupations requiring a graduate degree.

### 2023 Annual Wages by Education Requirement



STEM-Related occupations are expected to continue to be an important part of the workforce for years to come. The 2022-2032 projected average growth rate for all STEM-Related occupations is 13 percent, which is 8.7 percentage points more than the overall projected growth rate for all occupations. STEM-Related occupations are projected to grow faster than non-STEM-Related occupations for all levels of education requirements.

### Projected Growth Rate by Education Requirement, 2022-2032



## Notes

The Missouri Economic Research and Information Center (MERIC) uses the definitions developed by the Standard Occupational Classification Policy Committee (SOCPC)<sup>1</sup> to classify occupations as STEM or STEM-Related. The acronym “STEM” is widely used in discussions across government, academia, and business, given increased emphasis on innovation and its implications for the economy and labor market. The discussion and analyses quickly get confounded since there is no commonly agreed upon definition of STEM. In July 2011, OMB asked the SOC Policy Committee (SOCPC) to recommend options for defining STEM occupations based on the 2018 SOC in order to enhance comparability of data across statistical agencies and organizations studying the STEM workforce for policymaking purposes, including educational and workforce planners. Information regarding the process for developing the 2018 SOC STEM list is available at: <https://www.bls.gov/soc/2010/#crosswalks>.

With the publication the 2018 SOC, the SOCPC initiated an update to their recommendation on STEM occupations. To maximize the comparability of data, the SOCPC agreed to maintain the same framework as used in the 2010 STEM occupations recommendation. The framework gives users options for defining STEM occupations, while also allowing for comparison across agencies and organizations. The SOCPC approved the updated recommendation in December 2018 and then finalized its recommendation to OMB in June 2019.

This report covers those occupations determined by the committee to be STEM occupations.<sup>2</sup> The SCOPC divided STEM occupations into two domains and four sub-domains. Occupations in the sub-domains of *Life and Physical Science, Engineering, Mathematics, Information Technology*, and *Social Science* are designated as “STEM Core” or just “STEM”. Occupations in the sub-domains of *Architecture* and *Health* are designated as “STEM-Related”.

With the full implementation of the 2018 SOC structure, starting with the 2021 OEWS estimates and 2022-2032 employment projections, the SOC codes that are classified as STEM changed.<sup>3</sup> These are almost all due to SOC code changes from the 2010 to 2018 SOC system, and not due to the SOCPC redefining which occupations it considers to be STEM. The exceptions are the occupations of *Occupational Health and Safety Specialists* and *Occupational Health and Safety Technicians*, both of which were considered to be STEM occupations according to the 2010 SOC STEM list, but not the 2018 SOC STEM List.<sup>4</sup>

## Sources:

U.S. Bureau of Labor Statistics (BLS) Occupational Projections used to define typical education and training requirements. Accessed September 2024.

U.S. BLS Division of Occupational Employment and Wage Statistics (OEWS) data used to define STEM occupations and wages. Accessed September 2024.

Occupational and Industry Employment Projections developed by the Missouri Economic Research and Information Center (MERIC).

Lightcast™ used for job postings data. Accessed March 2025.

*The workforce solution was funded by a grant awarded by the US department of Labor’s Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the US Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information or its completeness, timeliness, usefulness, adequacy continued availability or ownership. This product is copyrighted by the institution that create it. Internal use by an organization and/or personal use by an individual for non-commercial purposes is permissible. All other uses require the prior authorization of the copyright owner. This product is copyrighted by the institution that create it. Internal use by an organization and/or personal use by an individual for non-commercial purposes is permissible. All other uses require the prior authorization of the copyright owner.*



## Endnotes

1. Attachment A: Options for defining STEM (Science, Technology, Engineering, Mathematics) occupations under the 2018 Standard Occupation Classification (SOC) system. Retrieved September 2024 from [https://www.bls.gov/soc/Attachment\\_A\\_STEM\\_2018.pdf](https://www.bls.gov/soc/Attachment_A_STEM_2018.pdf)
2. Attachment B: Detailed 2018 SOC occupations included in STEM SOC Policy Committee recommendation to OMB. Retrieved September 2024 from [https://www.bls.gov/soc/attachment\\_c\\_stem.pdf](https://www.bls.gov/soc/attachment_c_stem.pdf)
3. Attachment C: SOC Policy Committee recommendations regarding STEM definition. Retrieved September 2024 from [https://www.bls.gov/soc/Attachment\\_A\\_STEM.pdf](https://www.bls.gov/soc/Attachment_A_STEM.pdf)
4. Attachment D: Detailed 2018 SOC occupations included in STEM SOC Policy Committee recommendation to OMB. Retrieved September 2024 from [https://www.bls.gov/soc/Attachment\\_C\\_STEM\\_2018.pdf](https://www.bls.gov/soc/Attachment_C_STEM_2018.pdf)